If you have any questions concerning the Water Resources comments, please contact Suzanne Blakeney at (509) 454-7294.

Thank you again for this opportunity to comment.

Sincerely,

Rebecca J. Inman
Environmental Coordination Section

EIS #021672

cc: Suzanne Blakeney, CRO
Ray Latham, CRO
Debbie Smith, CRO

State of Washington
DEPARTMENT OF FISH AND WILDLIFE
District 4 Office: 2620 North Commercial Avenue - Pasco, Washington 99301 - (509) 545-2014

May 17, 2002

Bonneville Power Administration
Attention: Sarah T. Branum
Environmental Specialist - KEC - 4
P. O. Box 3621
Portland, Oregon 97208-3621

Dear Ms Branum:

SUBJECT: NEPA/SEPA - Draft Environmental Impact Statement DOE/EIS-0333, Maiden Wind Farm, Bonneville Power Administration, Construct up to 549 wind turbines, associated access roads, water crossing structures, and associated facilities in the Rattlesnake Hills, Benton and Yakima Counties, Washington.

The Washington Department of Fish and Wildlife (WDFW) reviewed the above-referenced National Environmental Policy Act (NEPA) Draft Environmental Impact Statement (DEIS) document and offers the following comments at this time. Other comments may be offered as the project progresses.

Permitting

It appears from the general description of the project, that a Hydraulic Project Approval (HPA; Chapter 77.55 RCW, WAC 220-110) to be issued by WDFW, will be required for the project. The road construction and crossing of Sulphur Creek require an HPA. The other ephemeral streams that are crossed need further review to determine if an HPA is required. Early involvement with WDFW will facilitate processing of the HPA. Once final design plans are available, please submit a completed Joint Aquatic Resource Permits Application (JARPA) for an HPA, including complete plans and specifications, to WDFW for review.

Wetland Impacts

Although the DEIS identifies wetlands within the project scope, there is insufficient information to determine to what extent they will be affected by the project. The proposed access roads and other associated structures should be located to avoid impacts to these wetlands. In instances

where structures must be placed within or near wetlands, delineations should be completed to determine mitigation requirements.

Tower and Collector System Construction Method and Siting

The DEIS describes two different types of construction, one regarding the footings and the other regarding overhead collector cables, that were not presented in any previous project discussion forums, Conditional Use Permit (CUP) applications, or other environmental reviews. WDFW prefers the caisson-type foundation over the spread footing type, as they are less intrusive to an adjacent habitats. Not enough information is available though, to completely assess whether the spread footing foundation has a larger footprint.

The wind industry made great strides to limit wind tower bird impacts by eliminating lattice structures or overhead collector systems. The wind source appears greatest on the ridge tops, where steep slopes, bedrock or lithosol soils are prevalent. How many towers or strings of towers require overhead collector cables? The DEIS does explain the higher bird mortality caused by guy wires associated with meteorological towers. These cables are smaller than transmission lines, making them more likely to cause bird mortalities. WDFW would like to see more complete details regarding the number of towers planned with overhead cable collectors and an estimate for the associated bird mortality.

In review of other wind farms locations and configurations, especially where raptors are prevalent, developers used a setback configuration along ridge lines. The intent for the setback appeared to be for the purpose of avoiding the highly utilized updraft areas (used by raptors) associated with geographic ridges and ridge lines. WDFW recommends an appropriate setback configuration along Yakima and Benton County ridge lines to avoid a higher mortality rate on raptors or other birds using these natural updraft areas. The specific setback distance for each string of towers proposed along the ridge line may vary, but should depend on observations made during pre project surveys and the best available information from other wind farms. The DEIS did not contain enough information for WDFW to comment in more detail on specific tower locations or string configurations.

WDFW does prefer, that wherever possible, to site towers or string of towers on existing agricultural land rather than on shrub steppe or lithosol soil habitats.

Land Use and Recreation

A number of sections within the DEIS discuss Land Use and Recreational impacts. We will summarize our general and specific comments here.

The DEIS lacks any reference to the WDFW Wildlife Area within the study area. The Wildlife area is more than three sections of public land (Sections 9, 14, 15, and 22, Range 25 East, Township 10 North) only one mile south of Section 33 between Rothrock Road and Pearl Road. Public uses include but are not limited to, hunting, photography, horseback riding, hiking, and wildlife viewing. Additionally, the Department of Natural Resource (DNR) sections within the study area are open to the same uses as the Wildlife areas. Regardless of agricultural leases, as long as there is public access to DNR sections, public recreation is allowed. The DEIS doesn't recognize or evaluate any of these public access issues. There should be a full impact analysis for these public lands.

The DEIS states that the Arid Lands Ecology (ALE) managers don't allow general public access therefore the project would not be affected by the wind project (page 3-8). The United States Fish & Wildlife Service (USFWS) is likely to weigh in on this issue, but we also have some comments because the obvious omission of future management options for ALE reflects other Land Use errors (i.e., WDFW Wildlife areas and DNR land use) referenced within the documents. ALE is a National Monument because of its numerous and unique values to the people of the United States. The USFWS is undertaking a public review process on how to manage the ALE reserve in the future. One of the key issues is how much public access to allow. Another key issue regarding wildlife management is the elk herd. WDFW supports public access on ALE in order to manage the elk herd size. This is our preferred option to transporting the animals or other suggested methods to reduce the herd size over time. Therefore, the ALE land adjacent to the Maiden Wind Project, may be open to public access in the future. The DEIS does not evaluate any land use or any other type of impact under the assumption of future public access on ALE. WDFW believes these potential impacts need to be evaluated.

Shrub Steppe, Grasslands, and Lithosol Soils

The shrub steppe habitat within the project area has unique qualities. Shrub steppe is very fragile, and especially fragile on southern exposed slopes, in the driest climate within its Washington range. The DEIS states that the permanent loss of shrub steppe is only 57.5 acres. The temporary loss is identified as 174.4 acres. Only 12.2 and 50.9 acres of lithosol soils are lost permanently and temporarily respectively, within the project scope. Once disturbed both of these types of habitats are difficult to replace, especially lithosol. Lithosol dependent plants have unique qualities obtained only in this type of environment. Replacement is not a likely option. Again, the nature of our dry climate on the Rattlesnake Hills in Benton County makes recovery

almost impossible on any short term basis. Any reference to temporary disturbance, removal, or loss, should be categorized as permanent. The length of the project proposal is only 20 years. The length for full recovery of a shrub steppe community within the project area is more than 60 years.

The grassland-steppe component recovery period is much less. Yet, it is an important component of wildlife habitat that needs to be restored whenever disturbed.

While the DEIS identifies the Environmental Consequences and provides means to avoid most of the potential environmental risks associated with the proposed project, it also itemizes impacts which cannot be avoided. We believe that the project will contribute to an increased level of habitat fragmentation and a reduction in available shrub-steppe vegetation for wildlife habitat.

Unmitigated impacts include the area of the habitat which will be lost through construction of roads, improved roads, staging areas, substations, wetlands, water crossing structures, riparian corridors, and well as other cumulative impacts. While it is relatively easy to estimate the acreage of impacted habitats, cumulative impacts and disturbance associated with the projects are more difficult to assess.

The DEIS indicates that the road disturbance associated with the preferred alternative will result in 44.5 miles of new road or more than 161 acres of habitat disturbance. It is not clear in the DEIS about the amount of additional vegetation or shrub-steppe impacts associated with improving and widening 10.3 miles of existing roads. Thus, the combined total loss of shrub steppe is 231.9 acres. The combined total loss of lithosol soil habitats is 63.1 acres.

It appears that the total direct loss of shrub-steppe habitats will be greater than 230 acres. Direct loss may be reduced if restoration and revegetation work is implemented in the project area. Additional impact to wildlife which is likely to result from implementation of the preferred alternative includes, the lineal distribution of noxious weeds, wildlife displacement, and some loss of ecological connectivity due to habitat fragmentation.

WDFW's mitigation policy is to seek greater than 1:1 mitigation ratios for impacts or direct loss of fish and wildlife habitat. Three to one (3:1) ratios are typically used. A 3:1 to 5:1 mitigation ratio is valid for shrub-steppe due to: 1) difficultly in restoring habitats in arid environments; 2) length of time to restore a climax community (20-30+ years for sagebrush); 3) fragmentation impacts beyond those of direct habitats lost by roads, towers etc. (e.g., transmission line built through a remnant block of shrub-steppe reduces the ecological connectivity and functionality of the whole block even though most habitat is not directly disturbed).

With consideration of expected cumulative impacts it appears that the preferred alternative will conservatively require acquisition or protection of a minimum of 690 to 1,150 acres of shrub-steppe habitat to mitigate for impacts which cannot be avoided. The lithosol soil habitat is so unique that replacement ratios have never been explored. Restoration is unlikely, and replacement of such a large segment may be difficult to find. We recommend greater than a 5 to 1 ratio (if even possible) to replace disturbed lithosol habitat. WDFW would also like to see mitigation that addresses restoration or replacement of a continuous plant community that includes all three, shrub steppe, grassland-steppe, and lithosol habitats.

It is difficult to evaluate impacts and develop suitable mitigation through a piecemeal approach whereby each project is considered individually and not in context with all BPA's proposals in south central and south eastern Washington. Independent biological assessments of the environmental impacts of multiple projects in shrub-steppe habitat often do not fully assess the combined cumulative effects on the landscape.

Conservation Reserve Program (CRP)

The DEIS states that 100 acres of CRP will be lost due to project footprint impacts. The purpose of CRP was to balance soil, water, and wildlife resource needs. These coequal factors were to ensure that only the most environmentally sensitive lands were enrolled. The formula for eligibility has wildlife values equal to the other two. WDFW's preference is to replace this lost CRP function at a 3 to 1 ratio on other disturbed agricultural land, not land already enrolled in CRP. Replacement on grasslands or existing grazed areas is not acceptable unless the ratio is much higher.

Use of CRP lands for the purpose of providing mitigation for lost shrub steppe or grassland-steppe must use variable replacement ratios to account for habitat quality and the functions actually provided. CRP acreage that is enhanced and used for mitigation credits must be removed from the CRP enrollment and dedicated as mitigation for the life of the project.

Wildlife Impacts

The evaluation of project impact to birds covers a large portion of this DEIS. The intent of the DEIS is not necessarily to address why the sensitive bird populations are at a critical stage. There is some reference to the fragmentation of shrub steppe habitat and how the shrub steppe obligate species populations are on the decline due to increased fragmentation. We concur and also view this project as furthering the fragmentation of shrub steppe and leading to further decline in sensitive bird populations in the project area.

The WDFW Ferruginous Hawk Recovery Plan discusses spatial and temporal buffers around nest areas that are based on human activity unrelated to wind turbines. Wind turbine farms were never considered in this recovery plan. In order to help meet species recovery goals, WDFW strongly recommends buffers around any of the identified Ferruginous Hawk nests to be a minimum of 1.1 kilometers. The juvenile hawks that fledge on these territories would be highly vulnerable to turbine mortality and electrocution (depending on tower and configuration). The 1.1 kilometer buffer also would allow the adult hawks to forage at a safer distance within their range from the nest.

We do not support creation of artificial nest site for ferruginous hawk mitigation. Avoiding disturbance near the nest sites is our preference. If species recovery goals are met, there should be an increase in ferruginous hawk populations around the existing nest sites. WDFW doesn't believe that the DEIS adequately addresses the potential for a significant increase in the ferruginous hawk population over time.

On page 3-34, the DEIS states that no western sage grouse have been documented in the study area and they are unlikely to occur. Sage grouse has been documented on ALE land, even after the fire of 2000. The large continuous parcel of shrub steppe on ALE and on and near the Maiden Wind project site is valuable habitat necessary for sage grouse recovery. It's likely that they will be present in the future if they are not already.

The exposure index comparison should be evaluated on like kind projects. It doesn't appear that other wind plants have the 2.0 Mw towers that stand 390 feet. Even if the blade is higher off the ground, it still rotates at a much higher height and is likely to affect bird flight patterns to a greater degree. The development trend is to build with the higher output towers (i.e., 2.0 Mw). Even though the DEIS states the developer will use variable tower sizes, the assumption for a full build out is a much greater total of 390 foot towers than any other wind plant that this project is being compared to. The resulting effect, is a higher mortality rate on birds.

Monitoring

In general, WDFW agrees with the continuation of pre-project avian impact monitoring, monitoring during construction, and post construction monitoring. The specific monitoring study design needs to target and adapt to the more sensitive species needs. We prefer to reach an agreement with either BPA, Benton County, or the developer on compensatory mitigation before final approval of the entire project, rather than continue to fund post construction studies that do not have a chance of altering operations or result in avoidance of avian mortality. The scientific information gathered will be useful in certain forums, throughout the life of the project, but

unless there are serious operational concessions, WDFW prefers a more beneficial use for these types of funds.

We don't believe that monitoring or data gathering is a mitigative action. This should be a requirement upon the developer throughout the life of the project.

Unmitigated Impacts

It is assumed that other proposed projects associated with wind power, transmission lines, substations, and gas turbine power plants identified in the DEIS, will also require some mitigation. We strongly advocate the development of a comprehensive mitigation banking plan which consolidates necessary mitigation for all proposed projects. Scientific literature indicates that shrub-steppe habitat owes a great deal of its functionality to large, contiguous blocks, and mitigation banking is a valid means of mitigating for loss of shrub-steppe vegetation. Mitigation from each proposed project could be banked to secure large blocks of relatively intact shrub-steppe habitat. The mitigation banking effort could be coordinated through BPA's existing Fish and Wildlife programs.

WDFW would like the proponent to recognize the potential for direct loss from project impacts on raptors (up to nine fatalities/year), including golden eagle fatalities at one per year, ferruginous Hawk fatalities at one per year, bat fatalities at more than 400 per year, and impacts on passerines (estimated mortality up to 1,565 birds per year). The shrub steppe obligate passerines, the loggerhead shrike, the sage thrasher, and the sage sparrow, are all Washington candidate species for listing as threatened or endangered species. The mitigation alternatives for these direct losses are listed below in order of preference.

1) Avoidance
2) Large scale off site mitigation banking that preserves the habitat which will lead to recovery of the Threatened and Endangered (T&E) and sensitive species and prevent further listing of other shrub steppe obligate species..
3) A monetary fee per tower per year over the life of the project of $125. The funds will be used to improve, preserve, or purchase an appropriate local wildlife habitat, that is impacted from the Maiden Wind Project.

Cumulative Impacts

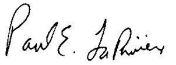
WDFW does not concur with the conclusion of insignificant cumulative impacts on loss to vegetation, land use, or wildlife. The Maiden Wind DEIS, on page 3-139, states, "The proposed project is the only known wind energy development planned in the Rattlesnake Hills." Another BPA DEIS, drafted for the McNary - John Day Transmission Line Project identifies another wind plant (Ice Wind) is planned in the Rattlesnake Hills immediately south of Maiden Wind. Additionally, other developers have discussed options to build immediately south of Prosser, and almost on every ridge top in Benton County where the wind resource could support a wind farm. Other wind project feasibility studies for siting in Kittitas County, Yakima County, Grant County, Walla Walla County, and more, are under way.

We don't believe that this document addresses cumulative impacts nor cumulative mitigation options accurately. In addition to the absence of the projects referenced above, total impacts from the identified projects on page 3-139 to -140, are inaccurate in all three categories, land use, recreation, and wildlife. There is a potential for over 2,000 wind turbines just on the Rattlesnake and Horse Heaven Hills based on current wind farm applications or feasibility studies. This figure doesn't even include the existing Stateline Wind Farm in nearby Walla Walla County. The cumulative impact evaluations are incomplete and not enough information is provided to accurately assess the total project impacts. The result of a lack of information is that it keeps the environmental impact estimates lower on the Maiden Wind Project.

It is for the stated reasons above that WDFW reemphasizes the need to approach evaluation of wildlife and shrub steppe impacts from this projects and all other BPA projects with a programmatic strategy. The benefits to Benton County and Yakima County natural resources, and other southeast Washington resources could be compounded with a large scale shrub steppe mitigation banking program.

Thank you for the opportunity to provide these comments. We look forward to meeting with you regarding mitigation opportunities and development of a comprehensive mitigation plan. If you have any questions, please contact me at (509) 545-2014.

Sincerely,



Paul E. LaRiviere
Area Habitat Biologist
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cc: SEPA Coordinator, WDFW
Clausing, WDFW, Region 3
WDFW Wind Power Group
Lower Columbia Basin Audubon Society
Richland Rod and Gun Club
Shuttleworth, Benton County Planning
Hughes, USFWS, Richland
Kurz, USFWS, Ephrata
Yakima County Planning
Yakima Valley Audubon Society